

**Amendments to the Specification:**

Please replace a paragraph beginning at page 2, line 10 with the following amended paragraph:

The simulator assembles a system of simultaneous equations. Equations that do not change depending on the circumstances are permanently associated with slots and therefore with a system variable or slot variables. The conditions that apply to the conditional equations are evaluated. The conditional equation is active when the conditions related to the conditional equation evaluate to true. The active conditional equations are then assigned to slots in the system of simultaneous equations, which can then be solved to determine the values of the system variables. If additional evaluations of the system of equations are required, the active conditional equations can be cleared from the slots, and a new set of active conditional equations selected.

Please replace a paragraph beginning at page 3, line 2 with the following amended paragraph:

Software systems that perform hardware simulation can do so using analog and discrete descriptions of the hardware behavior. Analog descriptions of the behavior are described as a set of simultaneous equations that need to be solved by a simultaneous equation solution algorithm in order to determine how the simulated system will behave. The simultaneous equations are expressed in terms of a certain number of unknowns and to find a solution there must be exactly one equation for each of the unknowns. The term 'system variable' describes the set of unknowns within the set of equations. Simulation systems may decrease the size of the system of equations and the number of system variables by using techniques such as those described in the above-identified U.S. Patent

Application Serial No. \_\_\_\_\_, 6,532,569 entitled "Classification of the Variables  
In a System of Simultaneous Equations Described By Hardware Description Languages,"  
filed \_\_\_\_\_, Languages."

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